

EFFECT OF YOGIC PRACTICES WITH AND WITHOUT THERAPEUTIC EXERCISES ON HAEMOGLOBIN AMONG ARTHRITIC MIDDLE AGED WOMEN

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ABSTRACT

The purpose of the random group experimental study was to find out the effect of yogic practices with and without therapeutic exercises on haemoglobin among osteoarthritic middle aged women. It was hypothesized that there would be significant differences on haemoglobin due to yogic practices with and without therapeutic exercises group than the control group. It was hypothesized that there would be significant differences on haemoglobin between the experimental groups. To achieve the purpose of study, 60 middle aged women suffering from knee arthritis were selected from in and around gobichettipalayam city, aged between 35 to 50 were selected and assigned randomly to each experimental groups and control group consisting of 15 subjects each. Experimental group 1, underwent yogic practices with therapeutic exercises for 8 weeks, five days per week for maximum period of 1 hour in the morning. Experimental group 2, underwent only yogic practices for same period of time and duration. The control groups were kept in active rest period. The pre and post test were conducted before and after the training group for all three groups. haemoglobin was measured by lab test. The obtained data were statistically analysed by using analysis of co variance (ANCOVA) and scheffe's post hoc test was carried out to determine the significant difference and tested at 0.05 level of confidence. The result of the study showed that the haemoglobin was significantly reduced due the practices of yoga and therapeutic exercises (EXP 1) better than the yogic practices group (EXP 2). And both experimental groups showed significant improvement due to the influences of combined effects of yogic and therapeutic exercises than the control group. Hence both the hypothesis was accepted at 0.05 level of confidence. Thus the conclusion was that the yogic practices with and without therapeutic exercises helped in improvement on haemoglobin among middle aged arthritic women than the control group.

KEY WORDS: Yogic Practices, Therapeutic Exercises, Haemoglobin, Arthritis.

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INTRODUCTION

In the present scenario Knee Osteoarthritis, the most common type of osteoarthritis, this commonly affects people over 45 years of age but can occur at any time. It is the major cause of functional disability causing difficulties in daily activities of life, especially in women. The risk of the condition increases with the age. Research studies shows that arthritis is more common in women (26%) than in men (18%) and the incidence of osteoarthritis is more among middle and aged women. The expected number of arthritis would be more than sixty million arthritis disability by 2025 in India. People with arthritis are less likely to be physically active and improve in their health conditions. Diabetes incidence is twice higher in osteoarthritis. Potassium which is low in osteoarthritis and changes in potassium level can lead to severe issues as it is associated with Diabetes, cardiac issues, hypertension etc.

Yoga drains away products of inflammation and toxins from joints. According to yoga joints are the storage of prana, therefore stiffness of joints and tightness of muscles are due to pranic block yoga regulates the flow of prana and gives betterment of the health also by activation and awakening of higher centers. Therapeutic exercise improves the muscle strength, endurance, range of motion (flexibility), and therefore to cope up with the disabilities. On regular practice of yoga with therapeutic exercise one can lead a healthy life overcoming all the disabilities of day to day life.

PURPOSE OF STUDY

The purpose of the study was to find out the effect of yogic practices with and without therapeutic exercises on haemoglobin among arthritic middle aged women

HYPOTHESIS

- It was hypothesized that there would be significant differences on haemoglobin among arthritic middle aged women due to yogic practices with and without therapeutic exercises of experimental groups than the control group.
- It was hypothesized that there would be significant differences haemoglobin among arthritic middle aged women due to yogic practices with and without therapeutic exercises between the experimental groups.

REVIEW OF RELATED LITERATURE

Gergana Zlatev et.al., (2010) conducted a study on Burden of anemia in patients with osteoarthritis and rheumatoid arthritis in French secondary care. Arthritic disorders can be the cause of hospitalizations, especially among individuals 60 years and older. The objective of this study is to investigate associations between health care resource utilization in arthritis patients with and without concomitant anemia in a secondary care setting in France. Two cohorts were defined using ICD-10 codes: patients with an arthritis diagnosis with a concomitant diagnosis of anemia; and arthritis patients without anemia. Health care resource utilization for both populations was analyzed separately in public and private hospital. After adjusting for confounders, the mean (95% CI) additional length of stay for arthritis patients with concomitant anemia, compared with those with arthritis only, was 1.56 (1.14-1.98) days in public and 0.69 (0.22-1.16) days in private hospitals. Costs per hospitalization were €; 480 (227-734) greater for arthritis patients with anemia in public hospitals, and €; 30 (-113-52) less in private hospitals, than for arthritis-only patients.

METHODOLOGY

To fulfill the goal of the random group experimental study, Random sampling design was followed for selecting the samples. 60 middle aged women ranging from 35 to 50, suffering from knee OA were selected in and around Gobichettipalayam city. The subjects were assigned randomly into two experimental groups and one control group with 15 subjects each. EXP1 were involved in yogic practices with therapeutic exercises for 8 weeks, EXP2, were involved in yogic practices only for 8 weeks and the control group kept in active rest. Pretest and post test were taken for all three groups 1, 2, and 3 on selected dependent variables before and after the training Programme of eight weeks

The yogic practices given were Prayer, Pawanamuktasan, Shashngbhujangasana, Baddhakonasana, Vajrasana, Marjariasana, Shashankasana, Supta Vajrasana, Akarna Dhanurasana, Trikonasana, Padahastasan, Paschimottasana, Janusirashasana, Ardhamatsyendrasana, Makarasana, Shavasana, Bhramari Pranayama, Ujjai Pranayama, Nadisodhan, Yoga Nidra.

Therapeutic exercises given were Warm Up Exercises, Quadriceps Stretching, Hamstrings Stretching, Calf Stretching, Step Ups, Static Quadriceps, Quadriceps Drill, High Sitting Knee Extension, Hamstrings Drill, Straight Leg Raising, Prone Knee Bending, Single Leg Standing, Calf Raise, Wall Squat, Glute Kicks, Cooling Down Exercises.

DATA ANALYSS

The data pertaining to the variables collected from the groups as pre and post test were statistically analyzed by using Analysis of Co-Variance (ANCOVA) to determine the significant differences between the experimental groups and the control group. Paired mean were analysed by Sheffe's Post hoc test at 0.05 level of confidence.

RESULTS AND DISCUSSIONS OF BLOOD HEMOGLOBIN

The pre and post test scores of blood haemoglobin was measured and subjected to statistical treatment. The results n the effect of training of yogic practices with and without therapeutic exercises is presented in the table.

**ANALYSIS OF CO-VARIANCE OF THE MEANS OF TWO
EXPERIMENTALGROUPS AND THE CONTROL GROUP IN BLOOD
HEMOGLOBIN**

(Total scores in gms.)

Test	Ex.G.1	Ex.G.2	Control Group	SV	SS	df	MS	F
Pre-Test Means	7.76667	7.88	7.83	B	0.10	2	0.049	0.20
				W	10.39	42	0.25	
Post-Test Means	11.74	9.73	7.77	B	118.41	2	59.21	154.08*
				W	16.14	42	0.38	
Adjusted Post-Test Means	11.77	9.70	7.76	B	120.27	2	60.13	190.69*
				W	12.929	41	0.32	
Mean Gain	-3.97	-1.85	0.07					

*Significant at 0.05 level of confidence. (The table value required for 0.05 level of significance with F 2, 57 and 2, 56 are 3.1 and 3.1).

As shown in table 1, the obtained F value on the scores of the pre test means 0.20 was lesser than the required F value of 3.1. Which proved that the random assignment of the subject were successful and their scores in before the training were equal and there was no significant differences. The analysis of posttest means proved that the obtained F value 154.08 was greater than the required F value of 3.1 to be significance at 0.05 levels. Taking into consideration of the pretest and post test means the adjusted post test means were done and the obtained F

value of 190.69 was greater than the required F value of 3.1 hence it was accepted that the yogic practices with therapeutic exercises group and yogic practices group significantly increases haemoglobin level than the control group.

Since the significant differences were recorded, the results were subject to post hoc analysis using scheff's confidence Interval test. The results are presented in table 1A.

SCHEFFE'S POST HOC TEST FOR BLOOD HEMOGLOBIN

Ex.G 1	Ex.G 2	Con.G	MD	CI
11.77		.76	4.01*	0.51
	9.70	7.76	1.93*	0.51
11.77	9.70		2.08*	0.51

*Significant at 0.05 level of confidence.

Table 1A: Table 1A shows that the adjusted post –test mean difference in blood hemoglobin between Ex.G 1 and CG and between Ex.G 2 and CG are 4.01 and 1.93, respectively which were statistically significant at 0.05 level of confidence. The adjusted post – test mean difference in blood hemoglobin between Ex.G 1 and Ex.G 2 was 2.08 which was greater than the confidence interval value at 0.05 level.

The ordered adjusted means are presented through bar diagram on ordered adjust means of the result of this study in Figure 1.

BAR DIAGRAM SHOWING THE PRETEST, POSTTEST AND ADJUSTED POST TEST MEANS ON BLOOD HEMOGLOBIN.

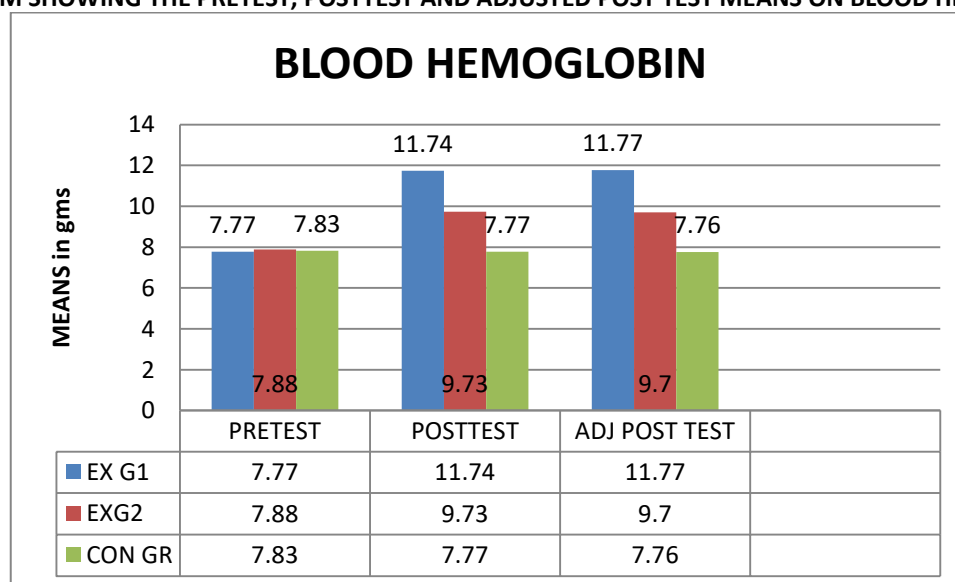


Figure 1

DISCUSSION ON THE FINDINGS OF BLOOD HEMOGLOBIN

The result of the study on blood haemoglobin indicates that all the experimental groups namely Ex.G 1 and Ex.G 2 brought about significant increase after the training than the control group. The analysis of the data indicates that there was a significant difference on blood haemoglobin Ex.G 1 and Ex.G 2. Based on the mean value, the yogic practice with therapeutic exercises was found to be better in increase of blood haemoglobin level than the yogic practices group. Systematic yogic practices training and therapeutic exercises increasing the blood haemoglobin. The above findings can also be substantiated by observations made by the expert Herranz Valera J, Acuna Ruiz P et.al.(2014).

DISCUSSION ON FINDINGS AND HYOTHESES

- The results of the study indicated that there were significant difference on haemoglobin due to the effect of yogic practices with therapeutic exercises and yogic practice without therapeutic exercises than the control group.
- Hence the first hypothesis was completely accepted at 0.05 level of confidence
- The results of the study indicated that there were significant difference between the yogic practices with therapeutic exercises group and yogic practices group on hemoglobin among arthritic middle aged women.
- Hence second hypothesis was accepted at 0.05 level of confidence.

CONCLUSION

From the analysis and discussion of this study the following conclusions were drawn,

- Yogic practices with therapeutic exercises ie, group-1, yogic practices without therapeutic exercises ie, group -2 helped to increases, blood haemoglobin level among arthritic middle aged women than the control group
- Yogic practices with therapeutic exercises programme was a suitable training system to improve blood haemoglobin level among the arthritic middle aged women than yogic practice without therapeutic exercises programme.

REFERENCESES

1. Fox, S. I. (2006). Human physiology, Mac Graw Hill: New York
2. George, F. (1989). The yoga sutra of Patanjali, Inner Traditions, India.
3. Hema (2003). Yoga for Health, Chennai: Tara Yoga Publications.
4. Iyengar, B.K.S. (1968). Light on Yoga: London: George Allen and Unwin Ltd.